

REMARKS

The rejection of claims 21-33 on the grounds of nonstatutory obviousness-type double patenting over claims 4-8 of Application Ser. No. 10/594,902 has been obviated by the concurrent filing of an appropriate terminal disclaimer.

Applicant again respectfully traverses the rejection of claims 21-29 over the Mori JP 2004-42782 (of which US 2004/0075008 and USP 7108284 are equivalents). As set forth on page 2 of the specification, the principal purpose of the invention is to provide a clutch for a webbing take-up device that can transmit torque from an electric motor to a webbing shaft through a simple and compact structure. To this end, the clutch of the invention includes lock bars 154 that are always biased toward engagement with a ratchet gear connected to the webbing shaft, in combination with sliders 144 which move relative to the rotor 124 in response to the drive motor to either release or to withdraw the lock bars 154 from engagement with the ratchet 112. The mechanical interplay between the sliders 144, lock bars 154, and rotor 124 is illustrated in Figures 3, 4A and 4B and described in the penultimate paragraph of page 15 of the specification. Figure 3 illustrates how spring retainer 148 bears against the slider 144, and generates a frictional force between the slider 144 and the body portion 126 of the rotor 124, thereby keeping it in place within the rotor 124. The movement of the sliders 144 relative to the rotor 124 may best be seen by comparing Figures 4A and 4B. Note in particular how the slider 144 **is frictionally retained in the case 101 via leaf spring 148**. Further note how retention of the lock bars 154 by the sliders 144 **is released** when the lock bars move **away** from the sliders, as is illustrated in Figure 4B.

Claim 21 expressly recites these advantageous and unique features of the clutch of the inventive webbing take-up device. Specifically, claim 21 recites a webbing take up device comprising a take-up shaft around which a webbing for restraining a passenger is wound such that the webbing can be taken up and pulled out; a motor; and a clutch that is mechanically intervened between the motor and the take-up shaft, transmits the rotation of the motor to the take-up shaft to cause the take-up shaft to rotate in the webbing take-up direction, and cuts off the transmission of rotation arising at the take-up shaft side to prevent that rotation from being transmitted to the motor, wherein the clutch includes a case, a rotating body that is disposed coaxially with respect to the take-up shaft and rotates as a result of the rotation of the motor

being transmitted to the rotating body, a ratchet that is integrally coupled to the take-up shaft, and

sliders that are configured to be relatively movable within a predetermined range with respect to the rotating body as a result of being **retained in the case by frictional force**, and

lock bars that are disposed on the rotating body, **are always biased** in a direction in which the lock bars engage with the ratchet, and are ordinarily retained by the sliders in positions where the lock bars are disengaged from the ratchet, and when the rotating body rotates in the webbing take-up direction, **the lock bars move away from the sliders such that the retention is released**, engage with the ratchet by the biasing force, transmit to the ratchet the rotation of the rotating body in the webbing take-up direction, and allow the relative rotation of the ratchet with respect to the rotating body in the webbing take-up direction, and when the rotating body rotates in the webbing pullout direction, the lock bars move toward the sliders and are moved to and retained in the disengaged positions by the sliders.

The Mori JP 2004-42782 patent document neither discloses nor suggests the webbing take up device recited in claim 21, for at least two reasons.

First, the Mori '008 US Published Patent Application neither discloses nor suggests the recited relatively movable sliders. In the Office Action of April 30th, the Examiner equates the blocks 146 in the Mori '008 US Published Patent Application with the sliders 144 recited in claim 21. However, as disclosed in paragraph [0121] of the Mori '008 reference, the blocks 146 (the base portion 142 of the rotating disc 140) “are integrally connected to the attachment pieces 172 of the friction ring 170 by fasteners such as screws or the like.” Consequently, the blocks 146 neither disclose nor suggest the recited “sliders that are configured to be relatively movable within a predetermined range with respect to the rotating body as a result of being **retained in the case by frictional force**,” The retention of the slider in the case by frictional force advantageously allows the clutch of the webbing retractor of the present invention to have a much simpler configuration than the Mori '008 clutch in which the slider moves relative to the lock bar in order to move the lock bar to an engaging position or a disengaging position with the ratchet, and which requires a complicated configuration in which a rotating body 140 and compressed coil springs 158 urge the push pieces 154 toward the rotating body 140. This simplification in structure allows the clutch of

the present invention can be configured much smaller, and accordingly, the webbing retractor of the present invention can be configured compactly as a whole.

Second, the Mori '008 reference neither discloses nor suggests lock bars that, when the rotating body rotates in the webbing take-up direction, “move **away from the sliders** such that the retention is released,...” In the last Office Action, the Examiner has equated the recited “sliders” to the blocks 146 disclosed in Figures 5 and 6 of the Mori '008 reference. However, the “sliders” 146 of the Mori '008 reference do not “move **away from**” the pawls 130. Rather, one end of the sliders (at 156 in Figures 5 and 6) moves **toward** the pawls 130 when retention is released. Hence the blocks 146 fail to “move **away from the sliders** such that the retention is released,...” as is specifically recited in the claim.

For these reasons **alone**, claim 21 is clearly patentable over the Mori JP 2004-42782 patent document. However, there are other reasons as well.

Since the claimed lock bar is “always biased” in the direction engaging with the ratchet, when the rotating body has rotated in the webbing take-up direction, the lock bar is removed from the slider and immediately engages with the ratchet because of the biasing force. Accordingly, the time for engagement of the lock bar with the ratchet can be shortened, and the rotation of the rotating body relative to the slider can be reduced drastically. By contrast, in the Mori '008 reference, the pawls 130 are **not** always biased in the direction engaging with the adaptor 112, but are urged toward the adaptor **only when** the push pieces 154 urged by the compressed coil springs 158 have engaged the pawls 130.

This structural difference in the Mori '008 device results in a significantly slower operation as compared to the operation of the claimed device. When the push pieces 154 engage the pawls 130 to rotate the pawls 130, the rotating body 140 must rotate relative to the base plate 92 across a rotation distance corresponding to the compression of the compressed coil springs 158. By contrast, no such rotation of the rotor 124 is necessary for the application of a biasing force on the lock bars 130. Accordingly, it takes a longer time before the pawls 130 engage with the adaptor 112 in the Mori '008 device.

Further, in a webbing retractor having a plurality of sliders and a plurality of lock bars, each slider can control the corresponding lock bar, and thus, even in a case in which one

lock bar does not mesh with the ratchet perfectly, the other lock bar is not affected so much by imperfect meshing.

Finally, each push piece 154 is configured integrally with the rotating body 140 by the compressed coil springs 158. Thus, if one pawl 130 does not engage perfectly with the outer teeth 122 of the adaptor 112, a rotating force acts from the pawl 130 to the rotating body 140 through one push piece 154 and one compressed coil spring 158 so that through the other compressed coil spring 158 and the other push piece 154, engagement of the other pawl 130 with the outer teeth 122 of the adaptor can be effected.


Claims 22-29 are each patentable not only by virtue of their dependency on claim 21, but for their recitation of additional mechanical features that are not remotely hinted at in the Mori JP 2004-42782 patent document.

Claims 30-33 have been cancelled, and hence require no further discussion.

Now that all of the claims are believed to be allowable, the prompt issuance of a Notice of Allowability is hereby earnestly solicited.

Respectfully submitted,

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